

REMARKS

Claims 1-8, 11-13, 15-21, and 23-26 are pending in the case. The Examiner objected to the application and rejected the claims as set forth below. Based on the amendments and remarks, reconsideration is respectfully requested.

I. Drawing Objections

The drawings are objected to for various reasons relating to reference numbers and labels in Figures 7 and 8. In response to the objections, the specification has been amended, as set forth above, to appropriately correct each of the identified defects.

II. Specification Objections

The specification is objected to because the abstract contains ambiguous alpha-numeric code, and because no summary of the invention section was included. The ambiguous code has been deleted, and a Summary section has been added.

III. Section 112(1) Claim Rejections

Claims 9 and 10 were rejected under the first paragraph of Section 112 as not being enabling. Without conceding this issue, in order to expedite allowance, Applicants have cancelled claims 9 and 10.

IV. Section 112(2) Claim Rejections

Claim 10 was rejected as indefinite under the second paragraph of Section 112. This rejection is now moot since claim 10 has been cancelled.

V. Sections 102/103 Claim Rejections

The claims are rejected under Sections 102 and/or 103 based on Green and the Grunswald article. In response to the rejections, independent claims 1, 11, and 19 have been amended to add the limitations: identifying from a plurality of branches a low confidence branch, and assigning to the low confidence branch a checkpoint and counter information about the checkpoint in a checkpoint buffer. These limitations are supported by the specification, for example, at paragraph 0019. As pointed out in the disclosure, this is an important feature taught by Applicant. It is not generally feasible (or efficient) to provide enough checkpoints (with checkpoint counter for each checkpoint) for each available branch. Thus, by assigning checkpoints to branches with low confidence, less checkpoints are needed and efficient performance can be maintained.

In contrast, neither Green nor Grunswald teach these limitations. In fact, Green teaches away from this in that it teaches that a checkpoint is assigned for each branch. (See e.g., Green at col. 12, ll. 28-32 “After generating the fetch address using branch prediction, the processor 200 checkpoints the machine state (registers, flags, and processor environment), increments the speculation level counter, and begins operating on the predicted instruction stream.) It teaches that every encountered branch is to be checkpointed. it doesn’t even hint at the need to be more selective with or to otherwise conserve checkpoints. Thus, it does not anticipate Applicants’ claims and it cannot be combined with Grunswald for the concept of using confidence estimation to assign checkpoints to low confidence branches. Accordingly, the claims are patentable over the cited references.

CONCLUSION

All of the claims are in condition for allowance. Accordingly, Applicant respectfully request the Examiner to pass this case to issue at the Examiner's earliest possible convenience.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at 512/238-7253.

Respectfully submitted,

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